

FORM PTO-1390 (Modified) (REV 11-98)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTORNEY'S DOCKET NUMBER 112740-186
TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371			U.S. APPLICATION NO. (IF KNOWN) SEE 37 CFR 09/787963
INTERNATIONAL APPLICATION NO. PCT/DE99/02736	INTERNATIONAL FILING DATE 01 September 1999	PRIORITY DATE CLAIMED 23 September 1998	
TITLE OF INVENTION A METHOD FOR DETERMINING A NETWORK ACCESS ADDRESS			
APPLICANT(S) FOR DO/EO/US Wolfgang Fraas et al.			
Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:			
<ol style="list-style-type: none"> 1. <input checked="" type="checkbox"/> This is a FIRST submission of items concerning a filing under 35 U.S.C. 371. 2. <input type="checkbox"/> This is a SECOND or SUBSEQUENT submission of items concerning a filing under 35 U.S.C. 371. 3. <input checked="" type="checkbox"/> This is an express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1). 4. <input checked="" type="checkbox"/> A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date. 5. <input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371 (c) (2)) <ol style="list-style-type: none"> a. <input type="checkbox"/> is transmitted herewith (required only if not transmitted by the International Bureau). b. <input checked="" type="checkbox"/> has been transmitted by the International Bureau. c. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US). 6. <input checked="" type="checkbox"/> A translation of the International Application into English (35 U.S.C. 371(c)(2)). 7. <input checked="" type="checkbox"/> A copy of the International Search Report (PCT/ISA/210). 8. <input checked="" type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371 (c)(3)) <ol style="list-style-type: none"> a. <input type="checkbox"/> are transmitted herewith (required only if not transmitted by the International Bureau). b. <input type="checkbox"/> have been transmitted by the International Bureau. c. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired. d. <input checked="" type="checkbox"/> have not been made and will not be made. 9. <input type="checkbox"/> A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)) 10. <input checked="" type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371 (c)(4)). 11. <input checked="" type="checkbox"/> A copy of the International Preliminary Examination Report (PCT/IPEA/409). 12. <input type="checkbox"/> A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371 (c)(5)). 			
Items 13 to 20 below concern document(s) or information included:			
<ol style="list-style-type: none"> 13. <input checked="" type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98. 14. <input checked="" type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included. 15. <input checked="" type="checkbox"/> A FIRST preliminary amendment. 16. <input type="checkbox"/> A SECOND or SUBSEQUENT preliminary amendment. 17. <input type="checkbox"/> A substitute specification. 18. <input type="checkbox"/> A change of power of attorney and/or address letter. 19. <input checked="" type="checkbox"/> Certificate of Mailing by Express Mail 20. <input checked="" type="checkbox"/> Other items or information: 			
Submission of Drawings - Figs. 1-2 on two sheets			

U.S. APPLICATION NO. (IF KNOWN, SEE 37 CFR

09/787963

INTERNATIONAL APPLICATION NO.

PCT/DE99/02736

ATTORNEY'S DOCKET NUMBER

112740-186

21. The following fees are submitted:

BASIC NATIONAL FEE (37 CFR 1.492 (a) (1) - (5)) :

- ☐ Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO \$1,000.00
- ☒ International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO \$860.00
- ☐ International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO \$710.00
- ☐ International preliminary examination fee paid to USPTO (37 CFR 1.482) but all claims did not satisfy provisions of PCT Article 33(1)-(4) \$690.00
- ☐ International preliminary examination fee paid to USPTO (37 CFR 1.482) and all claims satisfied provisions of PCT Article 33(1)-(4) \$100.00

ENTER APPROPRIATE BASIC FEE AMOUNT =**CALCULATIONS PTO USE ONLY**

\$860.00

\$0.00

Surcharge of \$130.00 for furnishing the oath or declaration later than ☐ 20 ☐ 30 months from the earliest claimed priority date (37 CFR 1.492 (e)).

CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE
Total claims	7 - 20 =	0	x \$18.00
Independent claims	1 - 3 =	0	x \$80.00

Multiple Dependent Claims (check if applicable) ☐**TOTAL OF ABOVE CALCULATIONS =**Reduction of 1/2 for filing by small entity, if applicable. Verified Small Entity Statement must also be filed (Note 37 CFR 1.9, 1.27, 1.28) (check if applicable) ☐**SUBTOTAL =**Processing fee of \$130.00 for furnishing the English translation later than ☐ 20 ☐ 30 months from the earliest claimed priority date (37 CFR 1.492 (f)).**TOTAL NATIONAL FEE =**Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31) (check if applicable) ☐**TOTAL FEES ENCLOSED =**

Amount to be:

refunded

charged

\$

\$

\$

☒ A check in the amount of \$860.00 to cover the above fees is enclosed.☐ Please charge my Deposit Account No. in the amount of to cover the above fees.
A duplicate copy of this sheet is enclosed.☒ The Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment to Deposit Account No. 02-1818 A duplicate copy of this sheet is enclosed.**NOTE:** Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO:

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SIGNATURE

William E. Vaughan

NAME

39,056

REGISTRATION NUMBER

March 23, 2001

DATE

BOX PCT

IN THE UNITED STATES ELECTED/DESIGNATED OFFICE
OF THE UNITED STATES PATENT AND TRADEMARK OFFICE
UNDER THE PATENT COOPERATION TREATY-CHAPTER II

5

PRELIMINARY AMENDMENT

APPLICANTS: Wolfgang Fraas et al. DOCKET NO: 112740-186
SERIAL NO: GROUP ART UNIT:
EXAMINER:
INTERNATIONAL APPLICATION NO: PCT/DE99/02736
INTERNATIONAL FILING DATE: 01 September 1999
INVENTION: A METHOD FOR DETERMINING A NETWORK ACCESS
ADDRESS

15

Assistant Commissioner for Patents,
Washington, D.C. 20231

Sir:

20

Please amend the above-identified International Application before entry
into the National stage before the U.S. Patent and Trademark Office under 35 U.S.C.
§371 as follows:

In The Specification:

On page 1, cancel lines 1-3 and substitute the following therefor:

25

--S P E C I F I C A T I O N

TITLE

A METHOD AND SYSTEM FOR PAYING FOR GOODS OR SERVICES

BACKGROUND OF THE INVENTION

Field of the Invention

30

The present invention relates to a method for determining a network
access address for transmitting messages from a switching system to a
communication terminal which is connected to the switching system via a
communication network.--

On page 1, before line 5, insert the following left hand justified heading

--Description of the Prior Art--

On page 1, line 6, cancel the "--" and substitute therefor a --,--.

On page 1, line 7, cancel the "--" and substitute therefor a --,--.

5 On page 1, line 10, insert a --,-- after "e.g.".

On page 1, line 11, insert a --,-- after "e.g.".

On page 1, line 12, insert a --,-- after "e.g.".

On page 1, line 28, cancel "plurality" and substitute therefor --number--.

On page 2, line 24, cancel the "," and substitute therefor a --;--.

10 On page 2, line 24, insert a --,-- after "is".

On page 2, line 25, cancel "to say".

On page 2, line 29, cancel "are" and substitute therefor --is--.

On page 2, line 30, cancel "are" and substitute therefor --is--.

On page 2, line 33, cancel "by means of" and substitute therefor --via--.

15 On page 3, lines 3-4, cancel "by means of" and substitute therefor --via--.

On page 3, lines 23-24 cancel "based on the object of specifying" and substitute therefor --therefor directed to--.

On page 3, line 24, cancel "by means of" and substitute therefor --via--.

20 heading
On page 3, cancel lines 27-28 and substitute the following centered

--SUMMARY OF THE INVENTION--

On page 3, lines 29-30, cancel "An essential advantage of the method according to the invention consists" and substitute therefor --Accordingly, the present invention offers an advantage--.

25 On page 4, cancel lines 1-2.

On page 4, line 3, cancel "An" and substitute therefor --A further--.

On page 4, line 3, cancel "of embodiments".

On page 4, line 3, insert --present-- before "invention".

On page 4, line 4, cancel “defined in the subclaims consists in” and substitute therefor --is that--.

On page 4, line, 5, cancel “that”.

On page 4, line 10, cancel the “-“ and substitute therefor a --,--.

5 On page 4, line 11, cancel “in the literature -“ and substitute therefor a --,--

On page 4, cancel lines 13-15 and substitute the following therefor

--Additional features and advantages of the present invention are described in, and will be apparent from, the following detailed description of the preferred
10 embodiments and the drawings.

DESCRIPTION OF THE DRAWINGS--

On page 4, line 20, insert --present-- before “invention”.

On page 4, line 21, insert --and-- after the “;”.

On page 4, line 25, insert --present-- before “invention”.

15 On page 4, before line 28, insert the following centered heading

--DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS--

On page 5, line 17, cancel “by means of “ and substitute therefor --via--.

On page 5, line 20, cancel “by means of” and substitute therefor --via--.

On page 5, line 23, cancel “comprises” and substitute therefor --includes--.

20 On page 6, line 30, cancel the “-“ and substitute therefor a --,--.

On page 6, line 31, cancel the “-“ and substitute therefor a --,--.

On page 6, line 33, cancel the “-“ and substitute therefor a --,--.

On page 6, line 34, cancel the “-“ and substitute therefor a --,--.

On page 6, line 36, cancel the “-“ and substitute therefor a --,--.

25 On page 6, line 37, cancel the “-“ and substitute therefor a --,--.

On page 7, line 3, cancel the “-“ and substitute therefor a --,--.

On page 7, line 4, cancel the “-“ and substitute therefor a --,--.

On page 7, line 10, cancel the “-“ and substitute therefor a --,--.

On page 7, line 11, cancel the “-“ and substitute therefor a --,--.

On page 8, line 25, cancel the “-“ and substitute therefor a --,--.

On page 8, line 31, cancel the “-“ and substitute therefor a --,-- (occurs twice).

On page 9, line 6, cancel the “-“ and substitute therefor a --,--.

5 On page 9, after line 7, insert the following paragraph

--Although the present invention has been described with reference to specific embodiments, those of skill in the art will recognize the changes may be made thereto without departing from the spirit and scope of the invention as set forth in the hereafter appended claims.--

10 On page 12 (last page), cancel all lines of text and substitute the following therefor

--ABSTRACT OF THE DISCLOSURE

A method for determining a network access address wherein a terminal address and a system address designating the switching system associated with the communication terminal are stored in the communication terminal. When the communication terminal is connected to the communication network, a configuration message containing the terminal address is transmitted to the switching system determined by reference to the system address, which switching system determines the network access address via the configuration message.--

20 **In the Claims:**

On page 10, cancel line 1 and substitute the following left hand justified heading therefor

--WE CLAIM AS OUR INVENTION--.

25 Please cancel claims 1-7, without prejudice, and substitute the following claims therefor:

8. A method for determining a network access address for transmitting messages from a switching system to a communication terminal, which is connected to the switching system via a communication network, the method comprising the steps of:

storing in the communication terminal both a terminal address individually allocated in the communication network and a system address designating the switching system associated with the communication terminal;

5 implementing subscriber interfaces for connecting the communication terminal to the communication network via hubs connected to the communication network;

transmitting, when the communication terminal is connected to a subscriber interface, a configuration message containing the terminal address from a relevant hub to the switching system determined by reference to the system
10 address stored in the communication terminal; and

determining the network access address via the configuration message.

9. A method for determining a network access address for transmitting messages from a switching system to a communication terminal as
15 claimed in claim 8, the method further comprising the step of:

storing the network access address determined together with the terminal address in the switching system wherein the communication terminal is considered to be registered at the switching system.

20 10. A method for determining a network access address for transmitting messages from a switching system to a communication terminal as claimed in claim 9, the method further comprising the step of:

transmitting at least one of an identification number and a password to the switching system from the communication terminal for registering the
25 communication terminal at the switching system.

11. A method for determining a network access address for transmitting messages from a switching system to a communication terminal as claimed in claim 8, wherein, if the allocation of the communication terminal is

changed from a first subscriber interface to a second subscriber interface, the network access address stored in the switching system and allocated to the corresponding communication terminal is updated by the configuration message transmitted on connection to the second subscriber interface.

5

12. A method for determining a network access address for transmitting messages from a switching system to a communication terminal as claimed in claim 8, wherein data transmission via the communication network is effected on Asynchronous Transfer Mode (ATM) data format.

10

13. A method for determining a network access address for transmitting messages from a switching system to a communication terminal as claimed in claim 12, wherein the network address is an ATM-based virtual path identifier/virtual channel identifier VPI/VCI (VPI/VCI) address.

15

14. A method for determining a network access address for transmitting messages from a switching system to a communication terminal as claimed in claim 13, wherein the VPI/VCI address includes both a VPI value and a VCI value.

20

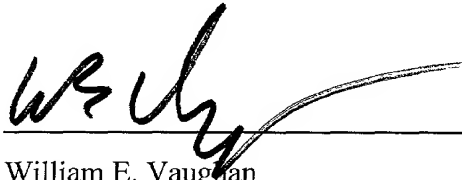
REMARKS

The present amendment makes editorial changes and corrects typographical errors in the specification in order to conform the specification to the requirements of the United States Patent practice. No new matter is added thereby. Original claims 1-7 have been canceled in favor of new claims 8-14. Claims 8-14 have been presented solely because the revisions by bracketing and underlining which would have been necessary in claims 1-7 in order to present those claims in accordance with preferred United States Patent practice would have been too extensive, and thus would have been too burdensome. The amendment is intended for clarification

purposes only and not for substantial reasons related to patentability pursuant to 35 U.S.C. §§101, 102, 103 or 112. Indeed, the cancellation of claims 1-7 does not constitute an intent on the part of the Applicants to surrender any of the subject matter of claims 1-7.

5 Early consideration on the merits is respectfully requested.

Respectfully submitted,



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Description

Method for determining a network access address

- 5 As a rule, the subscriber number allocated to a subscriber - e.g. the telephone number or the fax number - is established by the association of the communication terminal allocated to the subscriber with a switching system in communication landline networks.
- 10 The subscriber number (e.g. 636-82963) is composed of a part identifying the switching system (e.g. 636) and a part identifying the subscriber (e.g. 82963), the latter being determined by the subscriber interface of the switching system via which the communication
- 15 terminal is connected to the switching system.

- When the subscriber moves, the subscriber number allocated to the subscriber usually changes, in contrast to mobile radio networks, since the communication terminal is either allocated to another
- 20 switching system or the communication terminal is connected to the same switching system via a different subscriber interface.

- From German Offenlegungsschrift DE 196 04 244 A1, a communication system is known in which the communication terminals allocated to a switching system
- 25 are connected to the switching system via an ATM-based communication network. In this arrangement, the subscriber interfaces are provided by a plurality of ATM hubs connected to the ATM-based network. The
- 30 switching system and the ATM hub in each case have an ATM interface unit via which, on the one hand, a connection to the ATM-based network is implemented and, on the other hand, a bidirectional conversion between the internal data format of the switching system or the
- 35 ATM hubs, respectively, and the ATM-based data format is effected.

In the cell-based data transmission method known as asynchronous transfer mode (ATM), fixed-length data packets, so-called ATM cells, are used for the data transport. An ATM cell is composed of a five-byte-long header containing switching data relevant to the transport of an ATM cell, and a forty-eight-byte-long payload.

Data transmission via an ATM-based network generally takes place in so-called virtual paths or virtual channels. For this purpose, interconnection tables with switching information consisting of a virtual channel identifier and of a virtual path identifier are set up in the respective ATM network nodes by an exchange of signaling information during a connection set-up before the beginning of the user data transmission. In the interconnection tables, a so-called VCI value is assigned to the virtual channel identifier and a so-called VPI value is assigned to the virtual path identifier. The switching information entered in the interconnection tables establishes how the virtual paths or, respectively, virtual channels contained in the virtual paths of the incoming and outgoing connections at the ATM network node are correlated with one another by the signaling, that is to say which input is connected to which output by switching. ATM cells transmitted via these virtual connections have switching data essentially consisting of a VPI value and a VCI value in the header. The ATM header data are processed, i.e. the switching data arranged therein are detected and evaluated, at the input of an ATM network node. The ATM cells are then switched through by the ATM network node to an output representing a certain destination by means of the switching information stored in the interconnection table.

For addressing a subscriber interface of the ATM hub or a communication terminal connected to the subscriber interface via the ATM-based network by means of the switching system, an ATM channel is set up for
5 each communication terminal between the ATM hub and the switching system, i.e. an unambiguous VPI/VCI address is allocated by the switching system to each subscriber interface of an ATM hub or, respectively, each communication terminal connected to a subscriber
10 interface, for a data transmission. The VPI/VCI address has hitherto been allocated to the respective subscriber interfaces and administered manually in the switching system.

If the allocation of a communication terminal,
15 allocated to the communication system, to a subscriber interface of an ATM hub is changed, i.e. because of a move, but the call number of the communication terminal is to be retained, a manual change of the VPI/VCI address allocated to the communication terminal is
20 necessary in the switching system. However, this is very complex, especially in large communication systems.

The present invention is based on the object of specifying a method by means of which a network access
25 address can be automatically allocated to a communication terminal in a simple manner.

According to the invention, the object is achieved by means of the features of patent claim 1.

An essential advantage of the method according
30 to the invention consists in that, in contrast to the previous manual allocation method, the susceptibility of the system to errors is reduced by automatic allocation of a network access address to a communication terminal connected to the switching
35 system via the communication network.

Advantageous further developments of the invention are specified in the subclaims.

An advantage of embodiments of the invention defined in the subclaims consists in, among other things, that access of unauthorized persons to the switching system is prevented by transmission of a personal identification number (PIN) and alternatively, or in addition, transmission of a password by a communication subscriber allocated to the communication terminal - frequently called subscriber authentication in the literature - for registering the terminal in the switching system.

In the text which follows, an exemplary embodiment of the invention is explained in greater detail with reference to the drawing, in which:

Figure 1 shows a structural diagram for the diagrammatic representation of the essential functional units involved in the method according to the invention, before a communication subscriber moves;

Figure 2 shows a structural diagram for the diagrammatic representation of the essential functional units involved in the method according to the invention, after the communication subscriber has moved.

Figure 1 shows a diagrammatic representation of two switching systems PBX1, PBX2 (Private Branch Exchange) which are connected to two ATM hubs ATM-HUB1, ATM-HUB2 via an ATM-based communication network ATM-KN. The ATM-based communication network ATM-KN consists, for example, of three network nodes NK1, NK2, NK3, the first switching system PBX1 being connected to the ATM-based communication network ATM-KN via the first network node NK1, the second switching system PBX2 and the first ATM hub ATM-HUB1

being connected to the network via the second network node NK2 and the second ATM hub ATM-HUB2 being connected via the third network node NK3.

The ATM hubs ATM-HUB1, ATM-HUB2 in each case
5 exhibit n subscriber interfaces TSS1, ..., TSSn for connecting communication terminals to the ATM-based communication network ATM-KN. By way of example, a first communication terminal KE-A allocated to a first communication subscriber is connected via the
10 subscriber interface TSS1 of the first ATM hub ATM-HUB1, and a second communication terminal KE-B allocated to a second communication subscriber is connected via the subscriber interface TSS1 of the second ATM hub ATM-HUB2.

15 ISDN (Integrated Services Digital Network) communication terminals are usually connected to the ATM-based communication network ATM-KN by means of S_0 interfaces or digital communication terminals are usually connected to the ATM-based communication
20 network ATM-KN by means of interfaces derived therefrom, such as, for example, U_{p0} interfaces, via the ATM hubs ATM-HUB1, ATM-HUB2. In general, a U_{p0} or an S_0 interface comprises, on the one hand, two user data channels which are equipped with a transmission rate of
25 64 kbit/s in each case as ISDN-oriented B channels and, on the other hand, a signaling channel which is configured as ISDN-oriented D channel with a transmission rate of 16 kbit/s. Furthermore, it is generally possible to connect analog communication
30 terminals to the ATM-based communication network ATM-KN via a/b interfaces.

These time slot-orientated data consisting of two B channels and one D channel are usually transmitted between the communication terminals KE-A,
35 KE-B connected to the ATM hubs ATM-HUB1, ATM-HUB2 and the switching system on the basis of the data format IOM-2 known, for example, from the product document "ICs for Communications - IOM[®]-2 Interface Reference

Guide" by Siemens, Munich, 3/91, order No. B115-H6397-X-X-7600, in particular pages 6 to 12. To transmit data via the ATM-based communication network ATM-KN, both the switching systems PBX1, PBX2 and the ATM hubs ATM-HUB1, ATM-HUB2 in each case exhibit an ATM interface unit, not shown, via which, on the one hand, a connection to the ATM-based communication network ATM-KN is implemented and, on the other hand, a bidirectional conversion between the IOM-2 data format usually provided for data transmission between the switching systems PBX1, PBX2 and the ATM hubs ATM-HUB1, ATM-HUB2 and the ATM data format is effected.

A bidirectional conversion between the IOM-2 data format and the ATM data format can be done either in accordance with the method known from German Offenlegungsschrift DE 196 04 244 A1 or in accordance with the method proposed in the German patent application having the official reference number 198 39 129.3.

In the present exemplary embodiment, the first communication terminal KE-A is allocated to the second switching system PBX2 and the second communication terminal KE-B is allocated to the first switching system PBX1. In this connection, the literature frequently mentions that the first communication terminal KE-A is registered at the second switching system PBX2 and the second communication terminal KE-B is registered at the first switching system PBX1. For this purpose, the address of the second switching system PBX2 - called system address AA2 in the further text - and an address unambiguously allocated to the first communication terminal KE-A in the ATM-based communication network ATM-KN - called terminal address EA-A in the further text - are stored in a memory of the first communication terminal KE-A. Furthermore, the address of the first switching system PBX1 - called system address AA1 in the further text - and an address

unambiguously allocated to the second communication terminal KE-B in the ATM-based communication network ATM-KN - called terminal address EA-B in the further text - are stored in a memory of the second communication terminal KE-B.

To transmit data from the second switching system PBX2 to the first communication terminal KE-A via the first route LW1, the terminal address EA-A of the first communication terminal KE-A and a VPI/VCI address - called network access address VCI3 in the further text - are stored in a configuration table KT2 stored in the second switching system PBX2. The network access address VPI13 can be used for unambiguously addressing the first communication terminal KE-A in the ATM-based communication network ATM-KN. For transmitting data from the first switching system PBX1 to the second communication terminal KE-B via the second route LW2, the terminal address EA-B of the second communication terminal KE-B and a network access address VCI4 allocated to this terminal address EA-B are stored in a configuration table KT1 stored in the first switching system PBX1. The network access address VPI4 can be used for unambiguously addressing the second communication terminal KE-B in the ATM-based communication network ATM-KN.

Figure 2 shows a diagrammatic representation of the allocation of the communication terminals KE-A, KE-B after a move by the first communication subscriber. Due to the move of the first communication subscriber, the allocation of the first communication terminal KE-A, allocated to the first communication subscriber, to the subscriber interfaces TSS1, ..., TSSn of the ATM hub ATM-HUB1, ATM-HUB2 has changed. Thus, the first communication terminal KE-A is no longer connected to the ATM-based communication network ATM-KN via the subscriber interface TSS1 of the first ATM hub ATM-HUB1 but via the subscriber interface TSSn of the second ATM hub ATM-HUB2.

If the subscriber number hitherto allocated to the communication subscriber is to remain allocated to the communication subscriber even after the move, it is necessary that the network access address VPI3 for the first communication terminal KE-A, stored in the configuration table KT2 in the second switching system PBX2, is updated so that calls directed to the first communication subscriber by the second switching system PBX2 via the ATM-based communication network ATM-KN are forwarded to the subscriber interface TSSn of the second ATM hub ATM-HUB2.

For this purpose, the terminal address EA-A stored in the first communication terminal KE-A and the system addresses AA2 are transmitted from the first communication terminal KE-A to the second ATM hub ATM-HUB2 when the first communication terminal KE-A allocated to the first communication subscriber is connected to the subscriber interface TSSn of the second ATM hub ATM-HUB2.

In a next step, the second ATM hub ATM-HUB2 sends a configuration message, containing the terminal address EA-A of the first communication terminal KE-A, via the third route LW3 to the second switching system PBX2 identified by the system address AA2 stored in the first communication terminal KE-A - frequently called home PBX of the first communication terminal KE-A in the literature. Using the transmitted configuration message and referring to the network nodes NK3, NK2 passed on the third route LW3, the second switching system PBX2 determines a new network access address VCI9 - i.e. an ATM-based VPI/VCI address - for the first communication terminal KE-A and enters this address at the appropriate point in the configuration table KT2. The first communication terminal KE-A is thus considered to be newly registered at the second switching system PBX2.

In addition, it can be provided that the registration of the first communication terminal KE-A at the second switching system PBX2 is confirmed by the transmission of a personal identification number (PIN) and/or of a password by the first communication subscriber - frequently called subscriber authentication in the literature.

Patent Claims

1. A method for determining a network access address for transmitting messages from a switching system (PBX1, PBX2) to a communication terminal (KE-A, KE-B) connected to the switching system (PBX1, PBX2) via a communication network (ATM-KN),
5 in which terminal a terminal address (EA-A, EA-B) individually allocated in the communication network (ATM-KN) and a system address (AA1, AA2) designating the switching system (PBX1, PBX2) associated with the communication terminal (KE-A, KE-B) are stored, and
10 subscriber interfaces (TSS1, ..., TSSn) are implemented for connecting communication terminals (KE-A, KE-B) to the communication network (ATM-KN) by means of hubs (ATM-HUB1, ATM-HUB2) connected to the communication network (ATM-KN) and
15 when a communication terminal (KE-A, KE-B) is connected to a subscriber interface (TSS1, ..., TSSn), a configuration message containing the terminal address (EA-A, EA-B) is transmitted from the relevant hub (ATM-HUB1, ATM-HUB2) to the switching system (PBX1, PBX2) determined by reference to the system address (AA1, AA2) stored in the communication terminal (KE-A, KE-B),
20 from which the network access address is determined by means of the configuration message.
2. The method as claimed in claim 1, characterized in that the network access address determined is stored, together with the terminal address (EA-A, EAB),
30 in the switching system (PBX1, PBX2) and in that the communication terminal (KE-A, KE-B) is thus considered to be registered at the switching system (PBX1, PBX2).

3. The method as claimed in claim 2, characterized in that, for registering the communication terminal (KE-A, KE-B) at the switching system (PBX1, PBX2), an identification number (PIN) and/or a password is additionally transmitted to the switching system (PBX1, PBX2) from the communication terminal (KE-A, KE-B).

4. The method as claimed in one of the preceding claims, characterized in that, if the allocation of the communication terminal (KE-A, KE-B) is changed from a first subscriber interface to a second one (TSS1, ..., TSSn), the network access address stored in the switching system (PBX1, PBX2) and allocated to the corresponding communication terminal (KE-A, KE-B) is updated by the configuration message transmitted on connection to the second subscriber interface (TSS1 ..., TSSn).

5. The method as claimed in one of the preceding claims, characterized in that data transmission via the communication network (ATM-KN) is effected on the basis of the asynchronous transfer mode (ATM) data format.

6. The method as claimed in claim 5, characterized in that the network address is an ATM-based VPI/VCI (virtual path identifier/virtual channel identifier) address.

7. The method as claimed in claim 6, characterized in that the VPI/VCI address comprises a VPI value and a VCI value.

Abstract

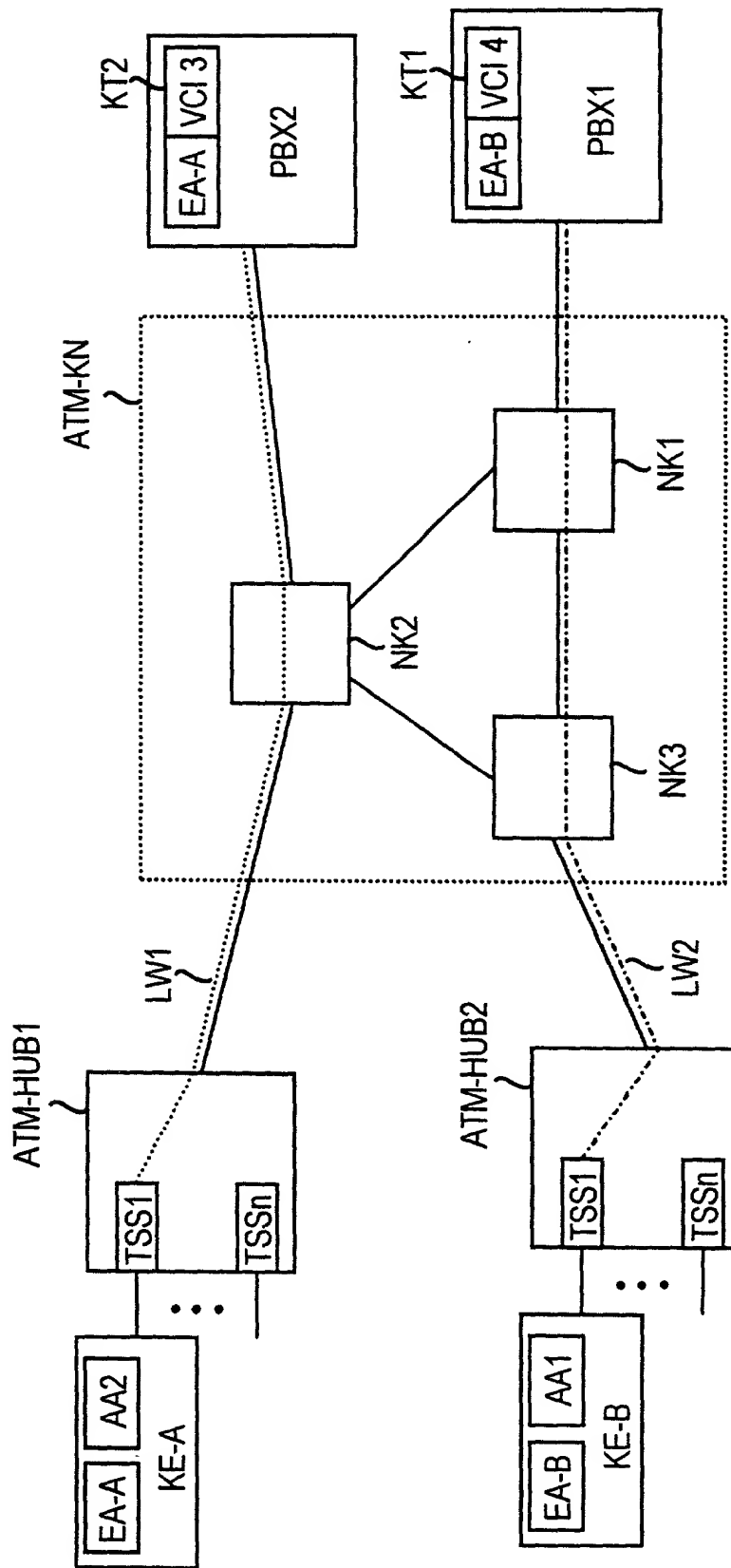
Method for determining a network access address

A terminal address (EA-A, EA-B) and a system address (AA1, AA2) designating the switching system (PBX1, PBX2) associated with the communication terminal (KE-A, KE-B) are stored in the communication terminal (KE-A, KE-B). When the communication terminal (KE-A, KE-B) is connected to the communication network (ATM-KN), a configuration message containing the terminal address (EA-A, EA-B) is transmitted to the switching system (PBX1, PBX2) determined by reference to the system address (AA1, AA2), which switching system determines the network access address by means of the configuration message.

Figure 1

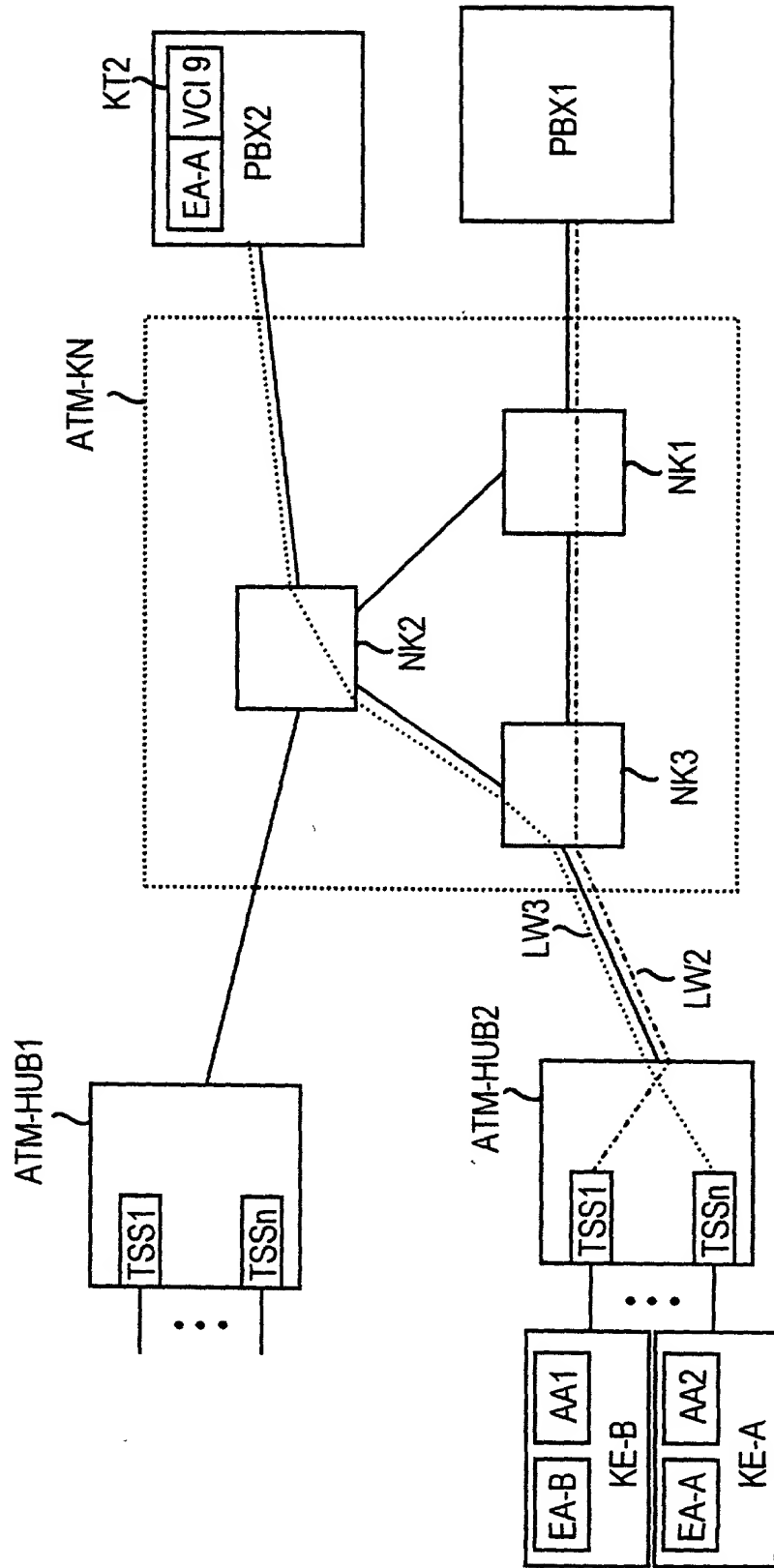
1/2

Fig 1



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Fig 2



Declaration and Power of Attorney For Patent Application

Erklärung Für Patentanmeldungen Mit Vollmacht

German Language Declaration

Als nachstehend benannter Erfinder erkläre ich hiermit an Eides Statt:

dass mein Wohnsitz, meine Postanschrift, und meine Staatsangehörigkeit den im Nachstehenden nach meinem Namen aufgeführten Angaben entsprechen,

dass ich, nach bestem Wissen der ursprüngliche, erste und alleinige Erfinder (falls nachstehend nur ein Name angegeben ist) oder ein ursprünglicher, erster und Miterfinder (falls nachstehend mehrere Namen aufgeführt sind) des Gegenstandes bin, für den dieser Antrag gestellt wird und für den ein Patent beantragt wird für die Erfindung mit dem Titel:

Verfahren zum Ermitteln einer
Netzzugangsadresse

deren Beschreibung

(zutreffendes ankreuzen)

☒ hier beigefügt ist.

☐ am _____ als

PCT internationale Anmeldung

PCT Anmeldungsnummer _____

eingereicht wurde und am _____

abgeändert wurde (falls tatsächlich abgeändert).

Ich bestätige hiermit, dass ich den Inhalt der obigen Patentanmeldung einschliesslich der Ansprüche durchgesehen und verstanden habe, die eventuell durch einen Zusatzantrag wie oben erwähnt abgeändert wurde.

Ich erkenne meine Pflicht zur Offenbarung irgendwelcher Informationen, die für die Prüfung der vorliegenden Anmeldung in Einklang mit Absatz 37, Bundesgesetzbuch, Paragraph 1.56(a) von Wichtigkeit sind, an.

Ich beanspruche hiermit ausländische Prioritätsvorteile gemäss Abschnitt 35 der Zivilprozessordnung der Vereinigten Staaten, Paragraph 119 aller unten angegebenen Auslandsanmeldungen für ein Patent oder eine Erfindersurkunde, und habe auch alle Auslandsanmeldungen für ein Patent oder eine Erfindersurkunde nachstehend gekennzeichnet, die ein Anmeldedatum haben, das vor dem Anmeldedatum der Anmeldung liegt, für die Priorität beansprucht wird.

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

the specification of which

(check one)

☐ is attached hereto.

☐ was filed on _____ as

PCT international application

PCT Application No. _____

and was amended on _____

(if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, §1.56(a).

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

German Language Declaration

Prior foreign applications
Priorität beansprucht

Priority Claimed

198 43 626.2 Germany 23. September 1998
(Number) (Country) (Day Month Year Filed)
(Nummer) (Land) (Tag Monat Jahr eingereicht)

☒ ☐
Yes No
Ja Nein

(Number) (Country) (Day Month Year Filed)
(Nummer) (Land) (Tag Monat Jahr eingereicht)

☐ ☐
Yes No
Ja Nein

(Number) (Country) (Day Month Year Filed)
(Nummer) (Land) (Tag Monat Jahr eingereicht)

☐ ☐
Yes No
Ja Nein

Ich beanspruche hiermit gemäss Absatz 35 der Zivilprozessordnung der Vereinigten Staaten, Paragraph 120, den Vorzug aller unten aufgeführten Anmeldungen und falls der Gegenstand aus jedem Anspruch dieser Anmeldung nicht in einer früheren amerikanischen Patentanmeldung laut dem ersten Paragraphen des Absatzes 35 der Zivilprozessordnung der Vereinigten Staaten, Paragraph 122 offenbart ist, erkenne ich gemäss Absatz 37, Bundesgesetzbuch, Paragraph 1.56(a) meine Pflicht zur Offenbarung von Informationen an, die zwischen dem Anmeldedatum der früheren Anmeldung und dem nationalen oder PCT internationalen Anmeldedatum dieser Anmeldung bekannt geworden sind.

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §122, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application.

(Application Serial No.)
(Anmeldeseriennummer)

(Filing Date)
(Anmeldedatum)

(Status)
(patentiert, anhängig,
aufgegeben)

(Status)
(patented, pending,
abandoned)

(Application Serial No.)
(Anmeldeseriennummer)

(Filing Date)
(Anmeldedatum)

(Status)
(patentiert, anhängig,
aufgegeben)

(Status)
(patented, pending,
abandoned)

Ich erkläre hiermit, dass alle von mir in der vorliegenden Erklärung gemachten Angaben nach meinem besten Wissen und Gewissen der vollen Wahrheit entsprechen, und dass ich diese eidesstattliche Erklärung in Kenntnis dessen abgebe, dass wissentlich und vorsätzlich falsche Angaben gemäss Paragraph 1001, Absatz 18 der Zivilprozessordnung der Vereinigten Staaten von Amerika mit Geldstrafe belegt und/oder Gefängnis bestraft werden koennen, und dass derartig wissentlich und vorsätzlich falsche Angaben die Gültigkeit der vorliegenden Patentanmeldung oder eines darauf erteilten Patentes gefährden können.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

German Language Declaration

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POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. (list name and registration number)

And I hereby appoint

Messrs. William E. Vaughan (Reg. No. 39,056); Robert M. Barrett (Reg. No. 30,142); Michael S. Leonard (Reg. No. 37,557); Patricia A. Kane (Reg. No. 46,446); Thomas C. Basso (Reg. No. P46,541); Robert W. Connors (Reg. No. P46,442); Troy A. Groetren (Reg. No. 46,442); Adam H. Masia (Reg. No. 35,602); Dante J. Picciano (Reg. No. 33,543); Amy J. Gast (Reg. No. 41,773); Timothy L. Harney (Reg. No. 38,174); Renato L. Smith (Reg. No. 45,117); and Alan L. Barry (Reg. No. 30,819).

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Unterschrift des Erfinders _____ Datum <u>01-02-21</u>	Second Inventor's signature _____ Date _____
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<u>Bundesrepublik Deutschland</u>	

(Bitte entsprechende Informationen und Unterschriften im Falle von dritten und weiteren Miterfindern angeben).

(Supply similar information and signature for third and subsequent joint inventors).